



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

7142

March 22, 2016

Brad Boyter
Western Clay Company
P.O. Box 127
Aurora, Utah 84620

Subject: Initial Review of Amended Notice of Intention to Commence Large Mining Operations, Western Clay Company, Bentonite Pits Mine, M/041/0012, Sevier County, Utah

Dear Mr. Boyter:

The Division of Oil, gas and Mining has reviewed the referenced replacement Notice of Intention to Commence Large Mining Operations (Notice) which was received February 1, 2016. The attached comments will need to be addressed before tentative approval may be granted. Also, you should work with the Trust Lands Administration (SITLA) to ensure your property rights in some of the areas proposed for expansion.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages for the Notice using redline and strikeout text. After the Notice is determined technically complete, the Division will request two clean copies of the complete and corrected plan. Upon final approval, both copies will be stamped approved and one will be returned to you.

The Division has the following general comments:

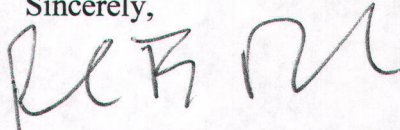
- The submittal should be formatted to easily incorporate additional revisions and amendments.
- The Division may have additional comments based on the review responses.



Page 2 of 9
Brad Boyter
M/041/0012
March 22, 2016

The Division will suspend further review of the Notice of Intention until your response to this letter is received. If you have any questions concerning the review, please contact Peter Brinton at 801-538-5258 or me at 801-538-5261. Thank you for your cooperation in completing this permitting action.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. B. Baker', with a stylized flourish at the end.

Paul B. Baker
Minerals Program Manager

PBB: pnb: eb
Attachment: Review
cc: John Blake, SITLA (ML-1937); jblake@utah.gov
O:\M041-Sevier\M0410012-BentonitePits\draft\REV-7142-03222016.docx

Initial Review
Page 3 of 9
M/041/0012
March 22, 2016

INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

**Western Clay Company
Bentonite Pits Mine**

**M/041/0012
March 22, 2016**

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	All	Throughout the plan the slope angles need H:V designations. It is not clear if the angles are 2V:1H or 2H:1V.	lah	
2	All	Some inconsistencies between the current Notice (last approved in 2010) and the updated Notice are present. Be aware of the current Notice as you continue to update the Notice, and implement appropriate changes in the updated Notice.	pnb	

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
3	Title Page	Correct the Project Start Date to be the original approval date of December 20, 1983.	pnb	
4	Title Page	Correct the UTM easting to be 424,000m E (not 425,000m E).	pnb	
5	Page 1	The entity number with the Division of Corporations is different from the tax identification number. The entity number for Western Clay is 635119-0142. Please update this number.	pnb	
6	Page 1, 104.2	Under the Registered Agent section, provide the mailing address for Brad Boyter that is reported on the State of Utah business registration with the Division of Corporations.	pnb	
7	Page 3	For the State of Utah surface owner, provide the address for the Trust Lands Administration (SITLA).	pnb	
8	Page 3	For the Mineral Owner #2, indicate that the State of Utah is also the mineral owner, and provide the same SITLA address.	pnb	
9	Page 3	The surface ownership map shows disturbance boundaries extending to other private landowners (e.g. Ken & Kirby Nelson, Terrell & Rhea Nelson). These landowners need to be listed, along with their addresses. Any other mineral owners need to be identified. The currently-approved Notice also identifies Utelite as an owner.	pnb	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
-----------	------------------------	----------	----------	---------------

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
10	All	Give all figures and drawings a unique figure number, such as Figure 1, Figure 2, etc.	lah	

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
11	Base Map	<p>Provide the additional information required for a topographic base map:</p> <ol style="list-style-type: none"> 1) Perennial streams, springs and other bodies of water, roads, buildings, electrical transmission lines, water wells, oil and gas pipelines, or other existing surface or subsurface facilities within 500 feet of the permit boundary, 2) Access route to the mine from the nearest highway (US-89), and 3) Areas previously impacted by mining for which you are not responsible. <p>It may not be practical to include all of this information on one map, so multiple maps may be needed.</p>	pnb	

105.2 - Surface facilities map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
12	General	Update the permit and/or disturbance boundaries to be consistent with aerial photos. As an example, the unspecified boundary on the Sheep Trail North Expansion map does not encompass visible disturbance areas and the widened access road, and the boundaries overlap with the Sheep Trail North map. Another example is the Sheep Trail South boundaries. Once the affected maps are corrected, the table of disturbance acreage in section 106 should be updated, as needed.	pnb	
13	General	<p>Identify the following additional information on the Surface Facilities Maps:</p> <ol style="list-style-type: none"> 1) Roads, 2) Utilities and power lines, if present, and 3) Drainage control structures (ponds, ditches, and any culverts). 	pnb	
14	Sheep Trail North and Sheep Trail North Expansion Maps	The Division has not fully released the regraded areas, and as of the last inspection, revegetation requirements had not yet been met. The status designated on these maps should be changed from Reclaimed to Regraded, since Reclaimed is usually used to identify complete reclamation.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
15	Omission	Please provide a geologic map and geologic cross sections. Use standard USGS symbols.	lah	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
16	Omission	Provide reclamation treatment maps that identify the location and extent of reclamation work to be performed, as if the Division had to contract with a third party to do the work without the mill waste backfill option. These plans need to be consistent with the reclamation plan and the cost calculations.	pnb	
17	All cross sections	The slope angles on the cross sections are not clear, as there is no horizontal scale and slope angles have not been labeled. Please add a horizontal scale and label slope angles. The Division recommends not including any vertical exaggeration.	lah	
18	All cross sections	Cross sections have good basic information, as the operator has submitted the current profile, proposed mine profile, proposed reclamation and the natural contour. It unclear to the Division where the fill material will be coming from (according to page 11 section R647-4-110). The Operator should explore the possibility of a cut/fill reclamation strategy, as there is a possibility to save reclamation costs.	lah	

105.4 - Photographs

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
19	Note	The Division has scanned photos in its files showing pre-mining or pre-law conditions. Including photos is often a good idea, but not required.	pnb	

105.5 – Underground and Surface Mine Development Maps

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
20	Omission	Please provide copies of mine development map(s).	pnb	

R647-4-106 - Operation Plan

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
21	Omission	It is not clear what type of mining methods will be used. Address specifically if there will be ripping, blasting, or any other mining technique as this relates to the control of slope stability. Also provide the information previously included in your existing Notice (last updated in 2010 and which refers to various equipment and processes), with any updates needed to reflect current and future plans.	lah pnb	
22	Omission	Identify the maximum slope angles in existing and future pits during mining. The Reclamation Practices of R647-4-111 require slopes to be no steeper than 45 degrees. See related comments in Section 109.4.	pnb	
23	Omission	Identify whether any deleterious or acid forming materials (e.g. fuels, acid-forming minerals) are or will be present or left at the site. Materials are deleterious if, when exposed to air, water, etc., they would produce conditions likely to negatively affect biota or hydrologic systems. See the definition in R647-1-106.	pnb	

106.3 - Estimated acreages disturbed, reclaimed, annually/sequentially

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
24	Page 6	Update the acreages on this page to be consistent with the modified maps.	pnb	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
25	Page 6	Information similar to that which was included in the existing Notice (last updated in 2010 and which contains more geologic information) should now be included in this section, with any updates needed to reflect current and future plans.	pnb	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
26	Page 6 & Appendix 4	Soils data provided is a general description of the soils found on site, and selected chemical and physical characteristics of the soil type, as a range for the various parameters listed. In order to plan for proper use, and the need for potential amendments or fertilizers, specific data is needed for the soil materials. Please provide specific data for the following parameters for each topsoil stockpile as well as for each soil type that will be affected by future mining operations: texture, pH, EC (conductivity), sodium adsorption ratio (SAR), percent organic matter, cation exchange capacity (CEC), total nitrogen, nitrate nitrogen, phosphorus (as P ₂ O ₅), and potassium (as K ₂ O).	lk	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
27	Page 6	More detail is needed: What is the average depth of soil materials being salvaged? What is the size of each soil stockpile (area, height, volume)? Correlate this data to the stockpiles shown on the maps in Appendix 2. Provide plans to protect soil stockpiles from further impacts and erosion until they are used for reclamation. Plans might include seeding with a quick-growing cover crop, berms, signage, etc.	lk	

106.7 - Existing vegetation - species and amount

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
28	Page 6	Please summarize the vegetation data in this section. Include the vegetation community types, common species and percent vegetative ground cover for each community type.	lk	

106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
29	Omission	No geologic setting has been submitted in this documentation. A good geologic map (as requested above) will eliminate the need for extensive text. Basic text should include the regional and local geologic setting. The geologic stratigraphy column can be shown on the maps. (As noted below, there was a local geologic discussion in the June 7, 2010, NOI amendment. Please include that discussion in the next submittal)	lah	
30	Omission	Somehow Section 106.8 was joined into the paragraph for 106.7. Separate them, and provide an approximate depth to groundwater in 106.8.	pnb	

106.10 - Amounts of material extracted or moved (including ore, waste, topsoil, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
31		Provide general information about the total material extracted, moved, or proposed to be moved.	pnb	

R647-4-109 - Impact Assessment

109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
32	Page 9	Briefly explain why no impacts to ground water are projected.	pnb	
33	Page 9	Discuss methods for storing and containing any materials that are considered potentially deleterious (such as fuels).	pnb	

109.2 – Potential impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
34	Page 8	The US Fish and Wildlife service has identified two potential T&E species that could inhabit the site as well as several other sensitive species of concern. Please provide a brief discussion of these species, an evaluation of the likelihood they exist on the site, and any potential impacts that may occur as a result of the mining operation. For example, a golden eagle may fly over the area, but it is likely not dependent on the mine-impacted area for survival.	lk	

109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
35	Omission	It is not clear on page 9 how public safety will be maintained during mining.	lah	
36	Omission	Discuss methods for minimizing erosion and controlling runoff. Some off-site erosion is visible. While some erosion may naturally occur, erosion caused by mining needs to be minimized.	pnb	

Initial Review
Page 8 of 9
M/041/0012
March 22, 2016

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
37	Page 9 last paragraph	The Notice includes a slope stability technique that "can also be" used to mitigate the impacts, but the Division needs a commitment to maintain an adequate Factor of Safety.	lah	

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
38	Note	You may want to note that some pre-law disturbance existed.	pnb	

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc.

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
39	Page 11, Part A.	Identify the pit backfill materials and the quantity. In past versions of the Notice, these materials were identified as waste rock, low grade bentonite, and waste sand from processing at the nearby mill. For calculation of the reclamation surety, the Division assumes that off-site (mill-generated) backfill materials are unavailable, that overburden dump material will not be entirely adequate to backfill pits, and that highwall reduction will be necessary to reduce the slopes to the planned configuration.	pnb	
40	Page 11, Part A.	Briefly discuss the partial backfilling that has been done to date.	pnb	
41	Page 11	Identify reclamation timing and plans for drainage control structures (e.g. ditches and settling ponds).	pnb	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
42	Page 11	Since deleterious materials can include materials introduced to the site (such as fuels and other chemicals – see Section 106.2), identify the plans for removal or disposal of any such materials as part of reclamation.	pnb	

110.5 - Revegetation planting program

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
43	Page 11	<p>What is the planned depth of topsoil replacement?</p> <p>What soil amendments or fertilizers are planned? How will they be spread/incorporated into the soil? Due to the low organic content of the soils, It is recommended that composted manure be applied at a rate of 10 tons per acre.</p> <p>Note: If the 50,000 cubic yards of soil reportedly saved were evenly spread over the entire area of 62.3 acres, the depth would be six inches. Also consider new soil salvaged.</p>	lk pnb	
44	Page 11	For compacted roads, dozer ripping rather than scraping with loader bucket teeth will be needed. Ripping of slopes along the contour (or some other form of roughening) is also commonly recommended by the Division as a way to minimize erosion and facilitate revegetation of reclamation slopes, such as was done on the North Sheep Trail pit. Contact the Division if you have questions.	pnb	
45	Page 11	<p>As planned, raking the seed into the soil after broadcasting tends to reduce the effectiveness of leaving a roughened surface for erosion control and water retention. If broadcast seeding is done immediately after ripping, raking to cover seed is not needed.</p> <p>The seed mix should be listed under this section rather than in an appendix.</p>	lk	

R647-4-113 – Surety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
46	Note	The Division will request and review the reclamation cost calculation once the reclamation plan is more complete. These calculations need to be consistent with the reclamation plan.	pnb	
47	Note	The reclamation cost calculations should assume that off-site materials are unavailable for use in backfilling.	pnb	